



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

EA

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/859,713	05/17/2001	Stephen J. Boies	YOR920000522US1	4119
35526	7590	07/15/2005	EXAMINER	
DUKE. W. YEE YEE & ASSOCIATES, P.C. P.O. BOX 802333 DALLAS, TX 75380			SALIARD, SHANNON S	
			ART UNIT	PAPER NUMBER
			3639	

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/859,713	BOIES ET AL.	
	Examiner	Art Unit	
	Shannon S. Saliard	3639	

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 May 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-33 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) <input checked="" type="checkbox"/> Other: <u>NPL</u>

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 2, 9, 12, 20, 27, 30, 32, and 33** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per **claims 2 and 20**, “wherein the set of routes includes the route” is vague and indefinite. It is unclear to the examiner and one of ordinary skill in the art what is claimed by this description. For the purposes of this review the examiner will interpret claims 2 and 20 to be “wherein the set of routes includes the *best* route.”

As per **claims 9 and 27**, “wherein the route from the first location to the second location is one part of a route of travel from an origination to a final destination for a user” is vague and indefinite. It is unclear to the examiner and one of ordinary skill in the art what is claimed by this description. For the purposes of this review the examiner will interpret claims 9 and 27 to be “wherein the route from the first location to the second location is one *segment* of travel from an origination to a final destination for a user.”

As per **claims 12 and 30**, “wherein the proposed itinerary includes a number of the set of routes” is vague and indefinite. It is unclear to the examiner and one of ordinary skill in the art what is claimed by this description. For the purposes of this

review the examiner will interpret claims 12 and 30 to be "wherein the proposed itinerary includes a number or plurality of routes."

As per **claims 32 and 33**, "wherein the set of routes includes the route" is vague and indefinite. It is unclear to the examiner and one of ordinary skill in the art what is claimed by this description. For the purposes of this review the examiner will interpret claims 32 and 33 to be "wherein the set of routes includes the *best* route."

Claims 32 and 33 recite the limitation "the computer program product of claim 30" in lines 3 and 9, respectively. There is insufficient antecedent basis for this limitation in the claim. For the purposes of this review the examiner will interpret claims 32 and 33 to be "the computer program product of claim 31."

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 1-12 and 31-33** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to

promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. A claim limited to a machine or manufacture that has practical application in the technological arts is statutory. In most cases, a claim to a specific machine or manufacture will have practical application in the technological arts. See MPEP 2106, 2100-14 (quoting *In re Alappat*, 33 F.3d at 1544, 31 USQ2d at 1557). Additionally, for subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. See *In re Alappat* 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond V. Diehr*, 450 U.S. at 192, 209 USPQ at 10). For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. See *In re Musgrave*, 431 F.2d 882, 167 USPQ 280 (CCPA 1970).

In the present case, claims 1-12 and 31-33 only recite an abstract idea. The recited steps of identifying user values assigned to a set of factors relating to travel from a first location to a second location; and comparing the user values to travel data for a route of travel from the first location to the second location to form a score does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of how to select an itinerary over another.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory

subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In claims 1 and 31, none of the recited steps are directed to anything in the technological arts as explained above with the exception of the recitation in the preamble that the method is "on a data processing system" and "a computer program product in a computer readable medium". Looking at the claims as a whole, nothing in the body of the claims recites any structure or functionality to suggest that a computer performs the recited steps. Therefore, the preamble is taken to merely recite a field of use.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. An invention, which is eligible or patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "use, concrete and tangible result". See *AT&T v. Excel Communications Inc.*, 172 F.3d at 1358, 50 USPQ2dat 1452 and *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d at 1373, 47 USPQ2d at 1601 (Fed. Cir. 1998). The test for practical application as applied by the examiner involves the determination of the following factors"

- (a) "Useful" – The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:

- i. the utility need not be expressly recited in the claims, rather it may be inferred.
- ii. if the utility is not asserted in the written description, then it must be well established.

(b) "Tangible" – Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754

(Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(c) "Concrete" – Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

In the present case, the claimed invention produces scores based on various factors (i.e., concrete) used in determining and selecting the best itinerary (i.e., useful and tangible).

Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained

above, **claims 1-12 and 31-33** are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-3, 8, 10, 13, 15, 16, 17-21, 26, 28 and 31-33** are rejected under 35 U.S.C. 102(b) as being anticipated by Lynch et al [U.S. Patent No. 6,018,715].

As per **claim 1**, Lynch discloses a method on a data processing system for generating an itinerary, the method comprising: identifying user values assigned to a set of factors relating to travel from a first location to a second location (col 2, lines 57-63); and comparing the user values to travel data for a route of travel from the first location to the second location to form a score (col 3, 16-25).

As per **claims 2, 20, and 32**, Lynch further discloses comparing the user values to travel data for a set of routes of travel from the first location to the second location, wherein the set of routes includes the route; and selecting a best route from the set of routes having a highest score when compared to the user values (col 7, lines 61-66).

As per **claims 3, 21 and 33**, Lynch further discloses wherein the set of factors includes at least one of trip time for travel from the first location to the second location, probability of a delay, probability of a cancellation, seating availability, availability of

special meal, whether the route is a direct route, probability that a flight on the route will be full, expected wait time for baggage, amount of frequent flier miles, layover times, nature of connection, a safety record for a plane assigned to the route, a safety record of an airline for the route, whether the route meets a selected set of travel guidelines (col 3, lines 42-48).

As per **claims 8 and 26**, Lynch further discloses wherein the comparing step includes comparing factors absent in the user values (col 5, lines 56-59).

As per **claims 10 and 28**, Lynch further discloses sending a proposed itinerary to a user in response to selecting the best route (col 8, lines 14-16).

As per **claim 13**, Lynch discloses a data processing system comprising: a bus system; a communications unit connected to the bus, wherein data is sent and received using the communications unit (col 4, lines 49-55); a display device connected to the bus system, wherein information is presented on the display device (col 4, lines 61-63); a memory connected to the bus system, wherein a set of instructions are located in the memory; and a processor unit connected to the bus system, wherein the processor unit executes the set of instructions to identify user values assigned to a set of factors relating to travel from a first location to a second location; and compare the user values to travel data for a route of travel from the first location to the second location to form a score (col 4, lines 37-41).

As per **claim 15**, Lynch further discloses wherein the processor unit includes a single processor (col 4, 27-31).

As per **claim 16**, Lynch further discloses wherein the processor unit includes a plurality of processors (col 3, lines 11-15).

As per **claim 17**, Lynch further discloses wherein the communications unit provides a connection to at least one of a physical network and a wireless network (col 4, lines 49-52).

As per **claim 18**, Lynch further discloses wherein the communications unit provides a connection to at least one of an Internet, an intranet, an extranet, a local area network, and a wide area network (col 4, lines 49-52).

As per **claim 19**, Lynch discloses a data processing system for generating an itinerary, the data processing system comprising: identifying means for identifying user values assigned to a set of factors relating to travel from a first location to a second location (col 4, lines 32-33); and comparing means for comparing the user values to travel data for a route of travel from the first location to the second location to form a score (col 4, 39-41).

As per **claim 31**, Lynch discloses a computer program product in a computer readable medium for generating an itinerary, the computer program product comprising: first instructions for identifying user values assigned to a set of factors relating to travel from a first location to a second location; and second instructions for comparing the user values to travel data for a route of travel from the first location to the second location to form a score (col 9, lines 1-24).

Art Unit: 3639

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 4-7 and 22-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch in view of Forbes article (June 1, 1987, see attached).

As per **claims 4 and 22**, Lynch discloses a method on a data processing system for generating an itinerary, the method comprising: identifying user values assigned to a set of factors relating to travel from a first location to a second location; and comparing the user values to travel data for a route of travel from the first location to the second location to form a score. Lynch does not disclose wherein the set of factors includes a probability of a delay and wherein the comparing step includes: comparing a specified time of travel for the route to travel data in the form of historical data to identify a probability of delay. However, Forbes discloses a computer program that calculates the probability of delay for a scheduled departure (page 2, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the method of Lynch to include the factors disclosed by Forbes. Forbes provides motivation by indicating that knowing the probability of delay will help travelers avoid the busiest periods, generally reducing delay time, and is important if the traveler is planning to make connections.

As per **claims 5 and 23**, Lynch does not disclose wherein the travel data includes historical data. However, Forbes discloses that the travel data includes historical data (page 2, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the method of Lynch to include historical data as disclosed by Forbes. Forbes provides motivation by indicating that knowing the historical delay data will be used to identify and avoid the busiest periods.

As per **claims 6 and 24**, Lynch does not disclose wherein the historical data includes delays associated with weather for times corresponding to a travel time for the route. However, Forbes discloses that the historical data includes delays associated with weather for corresponding travel times for the route (page 2, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the method of Lynch to include historical data associated with weather as disclosed by Forbes to avoid poor weather conditions that could delay flight times.

As per **claims 7 and 25**, Forbes does not explicitly disclose wherein the comparing step includes: performing statistical analysis of travel data for the route. Forbes discloses that travel corporations are relying on the Peak Delay Guide software, which indicates that the program is using large amounts of data to accurately calculate the delay probabilities, suggesting that statistical analysis is being used in the calculation. It would have been obvious to one of ordinary skill in the art at the time of the invention to use statistical analysis techniques in the calculation since these techniques are well known and commonly used when analyzing large amounts of data.

5. **Claims 9, 11, 12, 27, 29, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch in view of Webber et al [U.S. Patent No. 5,331,546].

As per **claims 9 and 27**, Lynch discloses a method on a data processing system for generating an itinerary, the method comprising: identifying user values assigned to a set of factors relating to travel from a first location to a second location; and comparing

the user values to travel data for a route of travel from the first location to the second location to form a score. Lynch does not disclose wherein the route from the first location to the second location is one segment of a route of travel from an origination to a final destination for a user. However, Webber discloses that the route from the first location to the second location may have one or more flight segments (col 16, lines 44-56). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the method of Lynch to include one or more flight segments as disclosed by Webber to include indirect flights. It is well known that not all airline carriers have direct flights from an origination to a final destination; so multiple flights may have to be taken to reach the final destination.

As per **claims 11 and 29**, Lynch does not disclose reserving a seat on a flight for the best route in response to a user request to reserve the seat. However, Webber discloses that a seat is reserved in the airline reservation system in response to user request (col 17, lines 4-10). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the method of Lynch to include reserving a seat on a flight for the best route in response to user request to reserve the seat to eliminate the inconvenience of a user transmitting the best itinerary to a reservation system.

As per **claims 12 and 30**, Lynch does not disclose wherein the proposed itinerary includes a number or plurality of routes. However, Webber discloses a proposed itinerary includes a number or plurality of routes (col 16, lines 42-48). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of

the invention, to modify the method of Lynch to include a number or plurality of routes to give the user options to choose the route that is most convenient based on all factors.

6. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch et al [U.S. Patent No. 6,018,715].

As per **claim 14**, Lynch discloses a computer which includes a central processing unit and suitable I/O circuitry (col 4, lines 46-47). Lynch does not explicitly disclose wherein the bus system includes a primary bus and a secondary bus (col 4, lines 45-48). However, it is well known that computer systems are comprised of buses to carry control information between the processors and other devices within the computer. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a primary and secondary bus to carry information for multiple network computers.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ahlstrom et al [U.S. Patent No. 4,862,357] discloses a computer reservation system with means to rank travel itineraries.

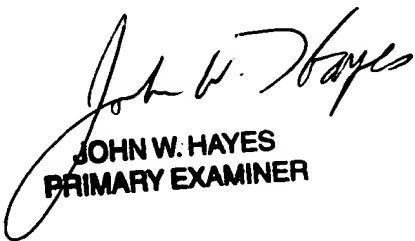
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shannon S. Saliard whose telephone number is 571-272-5587. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

Art Unit: 3639

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sss



JOHN W. HAYES
PRIMARY EXAMINER